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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/631,363 | 07/31/2003 | Bryan Youngpeter | 10541-1658 | 2153 |

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EXAMINER

GILLAN, RYAN P

ART UNIT PAPER NUMBER

3746

DATE MAILED: 04/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/631,363

Applicant(s)

YOUNGPETER ET AL.

Examiner

Ryan P. Gillan

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 4-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claim 8 recites the limitation "the means" in line 1 of claim 8. There is insufficient antecedent basis for this limitation in the claim. It is unclear which means is being referred to as "the means," thus making it unclear as to what actually "comprises a coil spring."

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-2, and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimura et al. (5,860,797) in view of Yokota et al. (6,041,883). Fujimura et al. teach a housing (1) defining a bore (Clearly seen in figure 2) having an axis, a fluid discharge port (18a) communicating with the bore at a first axial location, and a fluid bypass port (1a) having an opening communicating with the bore at a second axial location; said bore comprising a first bore end and a second bore end and a pump outlet adjacent the first bore end (clearly seen in figure 3); a flow control valve (14) slideably received in the bore for opening and closing the fluid bypass port (col. 3 lines 40-43), said flow control valve defining an inlet for opening the fluid bypass port for admitting fluid thereto (col. 3 lines 40-54); the inlet having a size dependent upon the position of the flow control valve within the bore, wherein the flow control valve slides axially to vary

the size to the inlet and contains a means for biasing the valve in the open position (col. 3 lines 40-54), the biasing means the means comprising a coil spring (17); pumping elements are disposed within the housing, said pumping elements comprising a cam chamber (12) and a rotor (5) having retractable vanes (11) disposed within the cam chamber, a plunger (16a) adjacent the second bore end and operatively connected to the flow control valve.

4. Fujimura et al. fail to teach a tubular extension sealing mounted onto the housing at said second bore end; a plunger disposed within the tubular extension and operatively connected to the flow control valve, and an electromagnetic coil disposed about the extension and adapted for applying an electromagnetic field to the plunger to vary the size of the inlet and thereby regulate the flow of fluid into the fluid bypass port; the extension including an end cap, and wherein plunger includes a rear end adjacent the end cap and a pressure equalization passage extending from the rear end and communicating with fluid adjacent the flow control valve. Fujimura et al. also fail to teach that the flow control valve rotates to vary the size to the inlet.

5. Yokota et al. (6,041,883) teach a tubular extension sealing mounted onto the housing at said second bore end, a plunger (37) disposed within the tubular extension (4, integral with the actuator) and operatively connected to the flow control valve (14), and an electromagnetic coil (4) disposed about the extension and adapted for applying an electromagnetic field to the plunger to vary the size of the inlet and thereby regulate the flow of fluid into the fluid bypass port (col. 6 lines 44-67); the extension including an end cap (36), and wherein plunger includes a rear end adjacent the end cap and a

pressure equalization passage (39) extending from the rear end and communicating with fluid adjacent the flow control valve. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fujimora et al. by replacing the hydraulic actuation with an electromagnetic coil of Yokota et al. operably connected to the plunger to regulate the flow of liquid into the fluid bypass port as a means of electronically controlling the valve in response to turning maneuvers of a vehicle, using the steering angle to calibrate minimum or maximum flow requirements (col. 8 lines 45-50).

Response to Arguments

6. Applicant's arguments filed 12/30/05 have been fully considered but they are not persuasive. The applicant argues that "electromagnetic control and hydraulic control of a balance valve are incompatible with respect to a technique for controlling the position of the spool," however, as cited in the Office Action above, the suggestion for combining the Yokota et al. and Fujimura et al. is by the replacement of the hydraulic features of the spool valve with the electromagnetic actuator. Therefore it is not necessary for the hydraulic control and the electromagnetic control to be compatible. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Fujimora et al. by replacing the hydraulic actuation with an electromagnetic coil of Yokota et al. operably connected to the plunger to regulate the flow of liquid into the fluid bypass port as a means of electronically controlling the valve in response to turning maneuvers of a

vehicle, using the steering angle to calibrate minimum or maximum flow requirements (col. 8 lines 45-50).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan P. Gillan whose telephone number is 571-272-8381. The examiner can normally be reached on 8:00 am - 4:30 pm; Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Thorpe can be reached on 571-272-4444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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TAE JUN KIM
PRIMARY EXAMINER